

Date: Thursday, 5/3/2007 11:28:02 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 350/355 AS X-TUBE AFT UNDER REVIEW
Job Number	: 32160		
Estimate Number	: 12486		
P.O. Number	: <i>N/A</i>	Part Number	: D350748201
This Issue	: 5/3/2007	S.O. No.	: <i>N/A</i>
Prsht Rev.	: NC	Drawing Number	: <i>N/A UNDER REVIEW</i>
First Issue	: <i>N/A</i>	Project Number	: <i>N/A</i>
Previous Run	: 32159	Drawing Revision	: <i>N/A</i>
		Material	: <i>N/A</i>
Written By	: <i>[Signature]</i>	Due Date	: 6/10/2007
Checked & Approved By	: <i>[Signature]</i>	Qty:	1 Um: Each
Comment	: Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update qty of MS21042L5 06-09-12 KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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RS 07.05.31

Comment: Photocopy bluefile & type labels per PPPD350-748-201 CHG001

2.0	32160A	X-TUBE AS 350/355 HI AFT UNDER REVIEW
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Comment: Sub-Component X-TUBE AS 350/355 HI AFT
D350-748-241 B. *32160A*

AS 07/06/14

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1
Pick Packing Kit

4.0	D35001	350 SADDLE
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
350 SADDLE
Batch: *31934*

SD

5.0	D35011	BUSHING
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)
BUSHING
Batch: *31077*

31935

7/11/14 SD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:02 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

Job Number: 32160

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

AN46A

Bolt



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Bolt

Batch: M1041322

SD

7.0

AN441A

bolt



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

bolt

Batch: M105940

SD

8.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M104936

SD

9.0

AN960JD416

Washer



Comment: Qty.: 32.0000 Each(s)/Unit Total : 32.0000 Each(s)

Washer

Batch: M105426

SD

10.0

AN960JD516

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Washer

Batch: M107156

SD

11.0

MS21042L4

Nut



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Nut

Batch: M105054

SD

12.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch: M105430

7-11-14- SD, X

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:02 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

Job Number: 32160

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-201

Location:

PPP Rev:

A

15.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



6/21/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:21 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: X-TUBE AS 350/355 HI AFT UNDER REVIEW
Job Number	: 32160A		
Estimate Number	: 12483		
P.O. Number	: N/A	Part Number	: D350748241
This Issue	: 5/3/2007	S.O. No.	: N/A
Prsht Rev.	: NC	Drawing Number	: D350-748-241 <i>UK 07.15.10</i>
First Issue	: N/A	Project Number	: N/A
Previous Run	: 32159A	Drawing Revision	: <i>05</i>
		Material	: N/A
Written By	: <i>[Signature]</i>	Due Date	: 6/10/2007
Checked & Approved By	: <i>[Signature]</i>	Qty:	1 Um: Each
Comment	: Est Rev: A New Issue 06-07-05 JLM : Est Rev: B Update cadplate process 06-09-12 KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D350-748-241 CHG001 *N/A*

2.0

D6018125

Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

" Crosstube Material

D6018-125

2.299" OD X 2.000" ID

Batch: *B27492**JF 07/07/10*

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs on both ends as per Folio FA647

2-Turn first side as per Folio FA647

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

JF 07/07/10

4.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

SG 07.07.12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 32160A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA647

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

3-Scribe part # as per Dwg D350-748-241

BC 07-07-12 (1)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

BC 07-07-12 (1)

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

JL 07/07/12

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Remove all Machining Marks

JD 7-7-25

9.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 4289

Heat Treat to min 180 KSI As per Dwg D350-748-241

Sand Blast tube after Heat Treat

Possible Supplier: Vac Aero

Ensure Certificate of Conformity is attached

JS 7-8-02

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformaty is attached

JS 07/08/24 (1)

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

JS 09-10 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:21 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 32160A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1
Oil inside of tube with LPS-3.

A/R LPS-3

Batch: M104661

PL 7-9-13

13.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT

EL 7-9-13

14.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Remove all marks from tube within limits of D350-748-241

2-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,
Set-up drill table as per QSI 010

3-Deburr

EL 7-10-5

4-Engrave Part # and Batch # as per Dwg D350-748-241

AWM 07/09/09 EL/SR 7-9-25

EL 7-10-5

16.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

checked hole for standard

EL 7-10-5

17.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 4787

Stress relief at 375° for 5 hours

Magnetic Particle Inspect per ASTM E1444

Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2

Embrittle relief at 375° for 8 hours, Chromate Treat

Possible Supplier: Southwest United Industries

Ensure Certificate of Conformity is attached

C207/10/11

0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:21 AM
User: Kirt Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 32160A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

7/11/06 SP (A)

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8/16/07

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside crosstube as per QSI 005 4.2

2-Paint Outside of Tube as per Dart QSI 005 4.2

> ml 07 11 09 (1)

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

2/11/14 (1)

22.0

D35021

SUPPORT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

SUPPORT

Batch: 32205

ml 07 11 12

23.0

D2856400

Abrasion Strip



Comment: Qty.: 1.2401 f(s)/Unit Total: 1.2401 f(s)

Abrasion Strip 7.10" long x2

Batch: 34642

ml 07 11 12

24.0

ALS41032225

Insert



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Insert

Batch: 100621

ml 07 11 12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:21 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 32160A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

AN960JD10

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Washer

Batch: 105442

ml 07 11 12

26.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clamp (per MIL-DTL-8783C)

Batch: 102787

ml 07 11 12

27.0

MS27039110

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Screw

Batch: 18836

ml 07 11 12

28.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install Ground wire Insert, then insert screw and washer

2-Install Abrasion strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

ml 07 11 12 (1)

29.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

207-11-14 (1)

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-241

Location:

PPP Rev: PPP 32160

AS 07/11/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: AD Date: 07/12/14
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/3/2007 11:28:21 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 32160A Part Number: D350748241

Job Number: 

Seq. #: Machine Or Operation: Description :

31.0 QC21 FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE

 5/3/14

Job Completion 

 5/3/14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

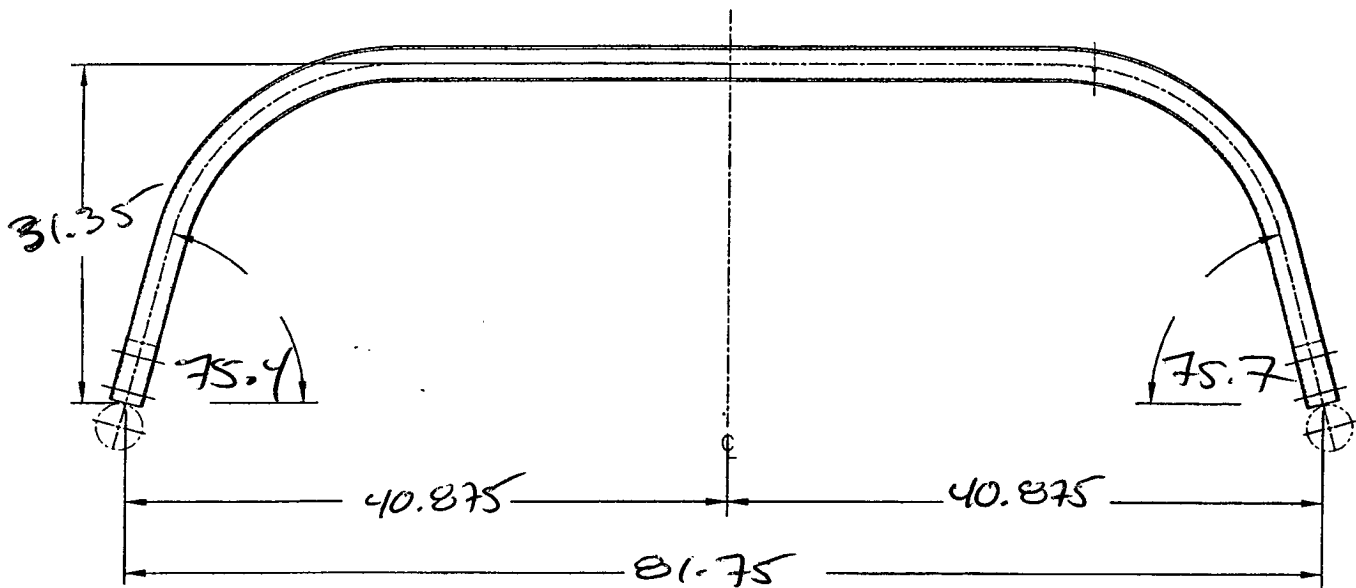
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	32160A
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241 Rev: D		Page 1 of 1	

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments

QC15 Inspection	<i>[Signature]</i> 07.02.20
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

DART AEROSPACE LTD	Work Order:	
Description: Crosstube Assembly (AS350/355 High Aft)	Part Number:	D350-748-241
Inspection Dwg: D350-748-241 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.244	✓			
	2.180	+0.005/-0.000	2.185	✓			
	2.180	+0.005/-0.000	2.185	✓			
	2.208	+0.005/-0.000	2.213	✓			
	2.234	+0.005/-0.000	2.238	✓			
	2.253	+0.005/-0.000	2.255	✓			
	2.272	+0.005/-0.000	2.276	✓			
	2.299	+0.005/-0.000	2.304	✓			
	0.063	+/-0.010	.063	✓			
	4.26	+/-0.030	4.26	✓			
	R0.063	+/-0.010	.063	✓			
	R0.50	+/-0.030	.500	✓			
SIDE B	2.240	+0.005/-0.000	2.244	✓			
	2.180	+0.005/-0.000	2.184	✓			
	2.180	+0.005/-0.000	2.185	✓			
	2.208	+0.005/-0.000	2.213	✓			
	2.234	+0.005/-0.000	2.238	✓			
	2.253	+0.005/-0.000	2.256	✓			
	2.272	+0.005/-0.000	2.276	✓			
	2.299	+0.005/-0.000	2.304	✓			
	0.063	+/-0.010	.063	✓			
	4.26	+/-0.030	4.26	✓			
	R0.063	+/-0.010	.063	✓			
	R0.50	+/-0.030	.500	✓			
	122.70	+/-0.060	122.690	✓			

Measured by: <i>S.F.</i>	Audited by: <i>BA J.L.</i>	Prototype Approval:	N/A
Date: 07/07/10	Date: 07/07/12	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue (P/O D350-748-201)	KJ/JLM	

DART**RELEASED**

06.10.31

DESIGN 90	DRAWN BY 90	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D350-748-241	REV. D SHEET 1 OF 3
DATE 06.10.31		TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE NTS
A	06.03.31	NEW ISSUE	
B	06.06.30	ADD D6018-125 & PRIME AND PAINT	
C	06.08.14	ADD CAD PLATING	
D	06.10.31	MAG. PARTICLE AND CAD PLATE AS MFD.	

QTY	P/N	DESCRIPTION
X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
1	D6018-125	CROSSTUBE (OR D6015-125)
2	D3502-1	SUPPORT
2	D2856-400-710	ABRASION STRIP
1	AELS-1032-225	INSERT
1	AN960JD10	WASHER
2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
1	MS27039-1-10	SCREW

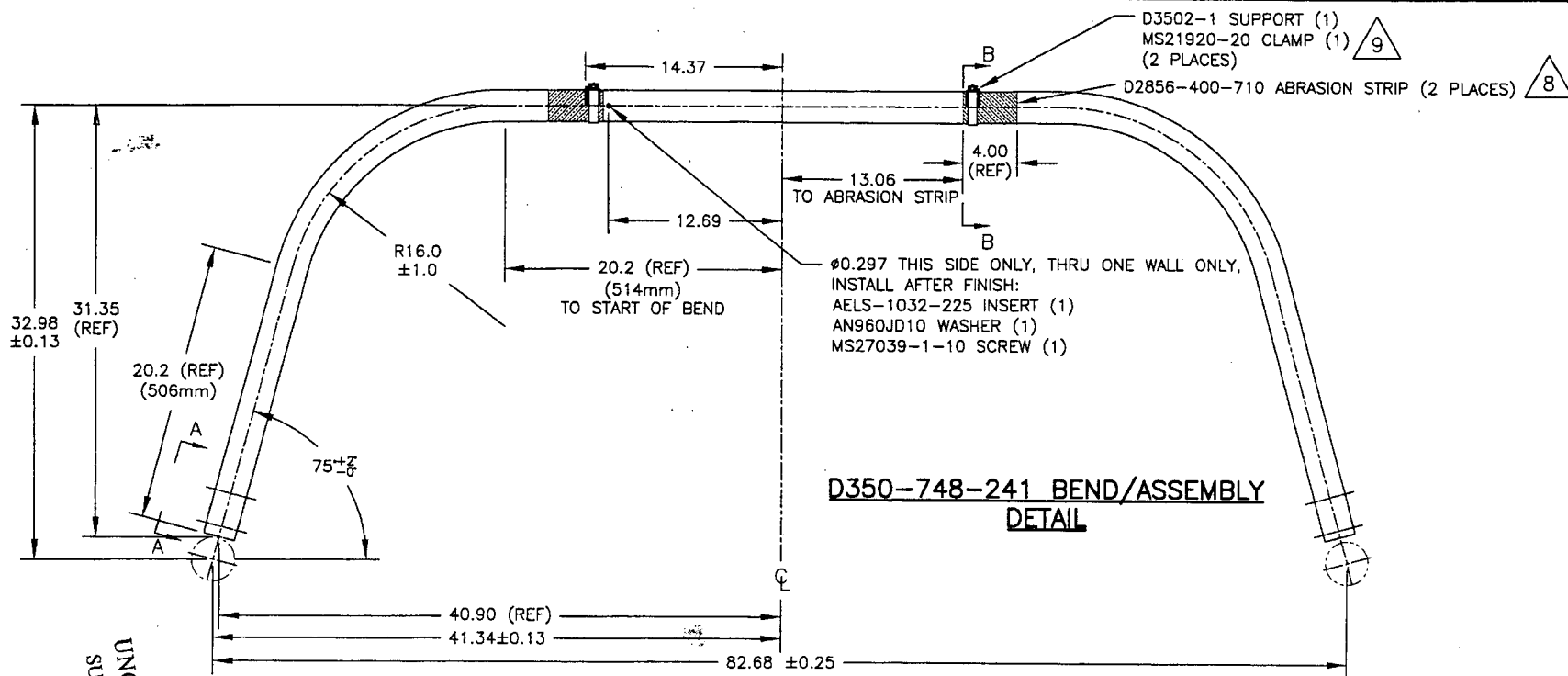
D350-748-141 CROSSTUBE:

- 1) MATERIAL: MANUFACTURED FROM D6018-125 OR D6015-125
FINISHED LENGTH = 122.70±0.06
- 2) MACHINE PER MACHINING DETAIL ON PAGE 3. BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITIONS SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 3) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 4) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 5) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING.
- 6) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 7) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- 8) INSTALL D2856-400-710 ABRASION STRIP WITH A GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 9) TORQUE MS21920-20 CLAMPS 60 TO 80 IN-LB
- 10) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 11) ALL DIMENSIONS ARE IN INCHES
- 12) PART IS SYMMETRIC ABOUT CENTERLINE EXCEPT FOR Ø0.297 HOLE.

ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

UNDER REVIEW07.07.16
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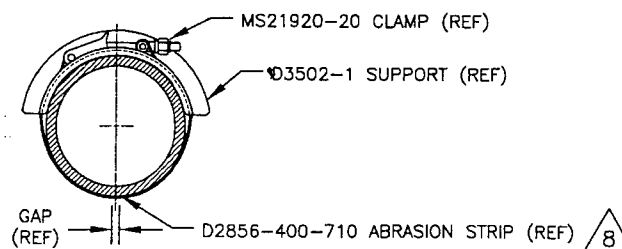
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**D350-748-241 BEND/ASSEMBLY
DETAIL**

SECTION B-B

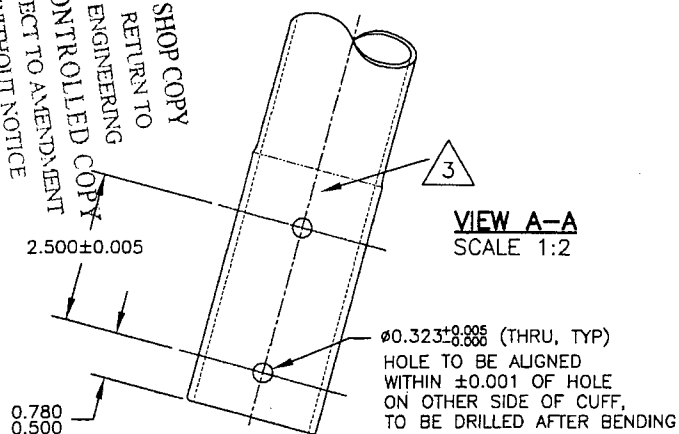
SCALE 1:2



VIEW A-A

SCALE 1:2

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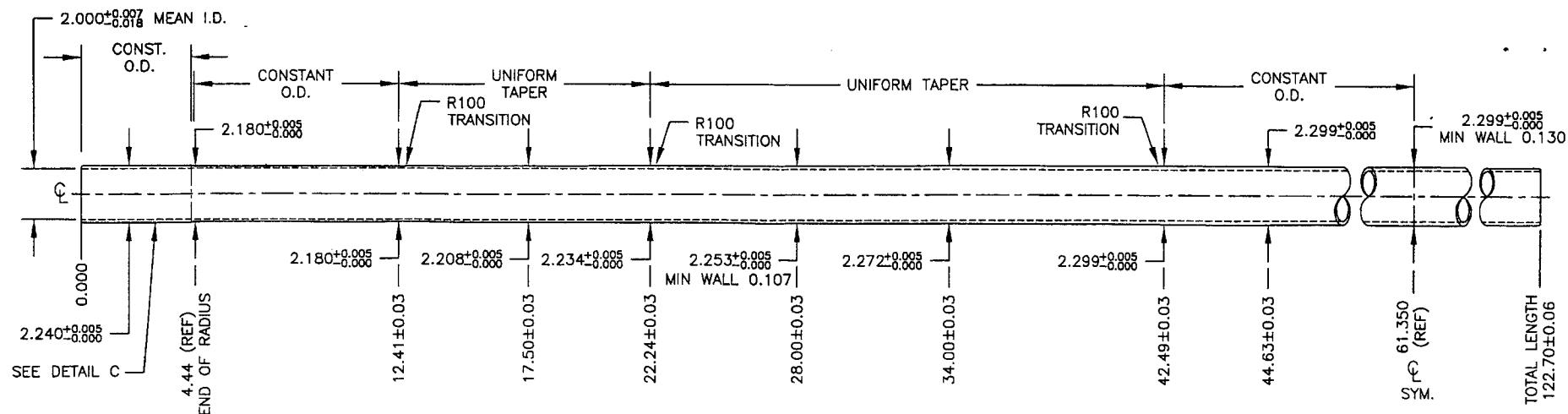


07.04.18
UNDER REVIEW
07.12.16
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06.10.31

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CHECKED	#	APPROVED	#	DRAWING NO.	REV. D
DATE	06.10.31	TITLE	CROSSTUBE (AS 350/355 HI AFT)	SHEET 2 OF 3	SCALE
					1:8



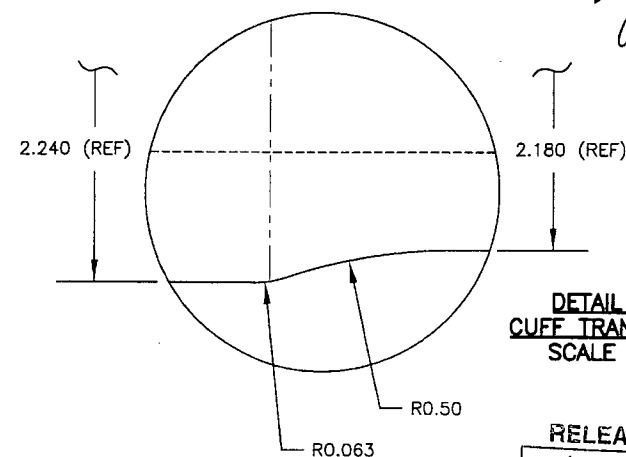
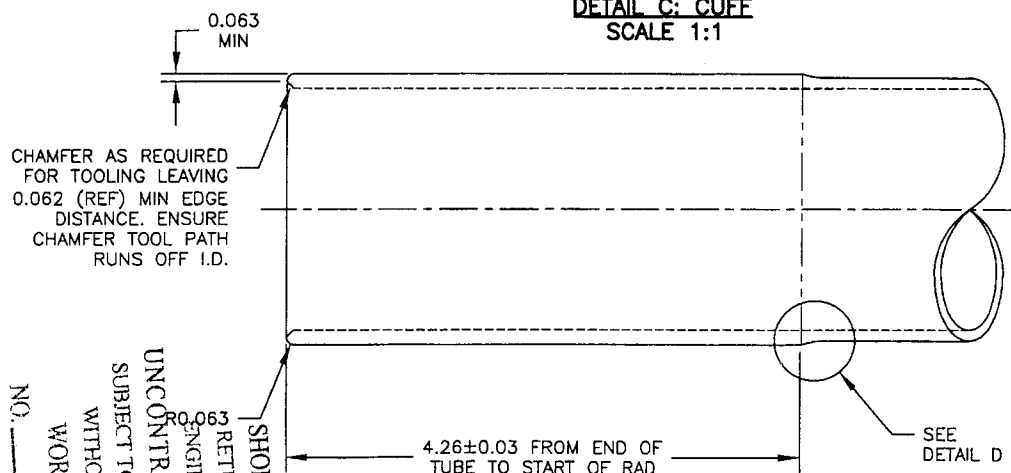
D350-748-241 MACHINING DETAIL

UNDER REVIEW

07.02.16

07.02.16

DETAIL C: CUFF SCALE 1:1



DETAIL D: CUFF TRANSITION SCALE 9:1

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06.10.31

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CHECKED	APPROVED	DATE	06.10.31	DRAWING NO.	D350-748-241
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				TITLE	CROSSTUBE (AS 350/355 HI AFT)
				SCALE	1:4



VAC AERO

INTERNATIONAL INC.

PACKING SLIP

OAK 89868-1



HEAD OFFICE
1371 SHEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489



QUEBEC DIVISION
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5
TEL: (514) 334-4240 FAX: (514) 334-6269

GST No.: R105468102

08/22/2007

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PAGE: 1

10AR01

BILL TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
08/22/2007		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
00004289		COD

LN	PART NO	DESCRIPTION	UOM	QTY ORDERED	QTY SHIPPED	B/O QTY
01	D350-718	-141/241	EA	10	10	0
		Process Specifications: Procedure: 4353 HEAT TREATED TO 180 KSI PER AMS 2759-1C 100% HARDNESS CHECKED AS PER ASTM E-18 HRC 40-45 MATERIAL: 4130 SAND BLASTED 1 PIECE P/N D350748141 B32157, 1 PIECE P/N D350748241 B32161 1 PIECE P/N D350748141 B32153, 1 PIECE P/N D350748241 B32160 1 PIECE P/N D350748141 B32155, 1 PIECE P/N D350748241 B32159 1 PIECE P/N D350748141 B32154, 1 PIECE P/N D350748241 B32162 1 PIECE P/N D350748141 B32156, 1 PIECE P/N D350748241 B32158				
02	MC	MINIMUM CHARGE 375 LBS @ \$2.26/LB		1	1	0
03	GB	GRIT BLASTING		1	1	0

No claims for shortage in weight or count will be entertained, unless presented within 5 working days after receipt of materials by customer.



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TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS



HEAT
TREATING



VAC AERO
INTERNATIONAL INC.

RELEASE NOT

GST No.: R105468102

OAK 89868-1



HEAD OFFICE
1171 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489



2009 WYECROFT ROAD, UNIT B
OAKVILLE, ONTARIO
CANADA L6L 6J4
TEL: (905) 827-7377 FAX: (905) 827-1380



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CANADA H4S 1C5
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1270 ABERDEEN ST.
HAWKESBURY, ON

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K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
08/22/2007		
CUSTOMER P/O No.	JOB No.	ORIGIN
00004289		
		TERMS
		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D350-748	-141/241	EA	10	10	
<p>Process Specifications: Procedure: 4353 HEAT TREATED TO 180 KSI PER AMS 2759-1C 100% HARDNESS CHECKED AS PER ASTM E-18 HRC 40-45 MATERIAL: 4130 SAND BLASTED</p>					
<p>1 PIECE P/N D350748141 B32157, 1 PIECE P/N D350748241 B32161 1 PIECE P/N D350748141 B32153, 1 PIECE P/N D350748241 B32160 1 PIECE P/N D350748141 B32155, 1 PIECE P/N D350748241 B32159 1 PIECE P/N D350748141 B32154, 1 PIECE P/N D350748241 B32162 1 PIECE P/N D350748141 B32156, 1 PIECE P/N D350748241 B32158</p>					

100% HARDNESS TESTED

10 RS.

42/43 HRC



I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Diana Robinson
Authorized Q.C. Inspector



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TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS



HEAT
TREATING

**CERTIFICATE OF
CONFORMANCE**

**CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1**

DATE: Oct-31-2007

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St.
Hawksbury, ON K6A 1K7

W/O #: 70677

INVOICE #: 36541

**CONTRACT OR
PURCHASE ORDER # PO4787**

DESCRIPTION: SKID

QTY 3

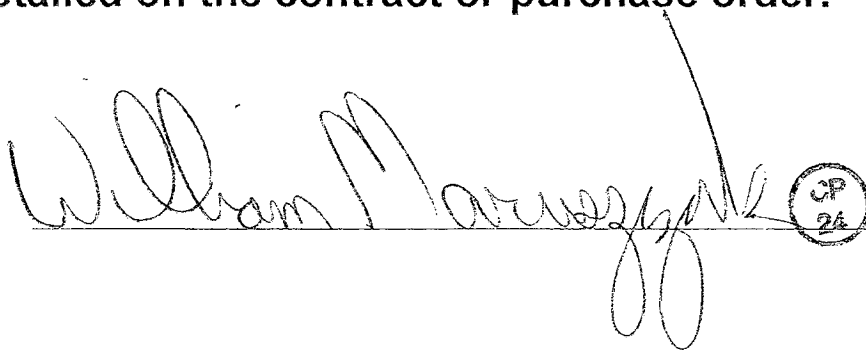
P/N # D350748241

S/N # B3216 O

**CADMIUM PLATE IAW AMS-QQ-P-416 REV. B TYPE 2 CLASS 1. MPI
IAW ASTM-E-1444. BAKE HEAT CHART #8407 & #8431.**

CERTIFICATE: I certify that the items indicated here on have been inspected and tested and conform to all specifications and requirements detailed on the contract or purchase order.

Approved Inspector:


CP
24



VAC AERO
INTERNATIONAL INC.

PACKING SLIP

OAK 89868-1



HEAD OFFICE
1371 SEERS ROAD, OAKVILLE, ONTARIO
CANAL A L6L 2X5
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7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
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GST No.: R105468102

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BILL TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
08/22/2007		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
00004289		COD

LN	PART NO	DESCRIPTION	UOM	QTY ORDERED	QTY SHIPPED	B/O QTY
01	D350-718	-141/241	EA	10	10	0
		Process Specifications: Procedure: 4353 HEAT TRIATED TO 180 KSI PER AMS 2759-1C 100% HARDNESS CHECKED AS PER ASTM E-18 HRC 40-45 MATERIAL: 4130 SAND BLASTED 1 PIECE P/N D350748141 B32157, 1 PIECE P/N D350748241 B32161 1 PIECE P/N D350748141 B32153, 1 PIECE P/N D350748241 B32160 1 PIECE P/N D350748141 B32155, 1 PIECE P/N D350748241 B32159 1 PIECE P/N D350748141 B32154, 1 PIECE P/N D350748241 B32162 1 PIECE P/N D350748141 B32156, 1 PIECE P/N D350748241 B32158				
02	MC	MINIMUM CHARGE 375 LBS @ \$2.26/LB		1	1	0
03	GB	GRIT BLASTING		1	1	0

No claims for shortage in weight or count will be entertained, unless presented within 5 working days after receipt of materials by customer.



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VAC AERO
INTERNATIONAL INC.

RELEASE NO1

GST No.: R105468102

OAK 89868-1



HEAD OFFICE

1371 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489



2009 WYECROFT ROAD, UNIT B

OAKVILLE, ONTARIO

CANADA L6L 6J4

TEL: (905) 827-7377 FAX: (905) 827-1380



QUEBEC DIVISION

7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5

TEL: (514) 334-4240 FAX: (514) 334-6269

08/22/2007

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PAGE: 1

BILL TO: 1DAR01
DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
08/22/2007		
CUSTOMER P/O No.	JOB No.	ORIGIN
00004289		
		TERMS
		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D350-748	-141/241	EA	10	10	

Process Specifications:

Procedure: 4353

HEAT TREATED TO 180 KSI PER AMS 2759-1C

100% HARDNESS CHECKED AS PER ASTM E-18

HRC 40-45

MATERIAL: 4130 ✓

SAND BLASTED

1 PIECE P/N D350748141 B32157, 1 PIECE P/N D350748241 B32161
1 PIECE P/N D350748141 B32153, 1 PIECE P/N D350748241 B32160
1 PIECE P/N D350748141 B32155, 1 PIECE P/N D350748241 B32159
1 PIECE P/N D350748141 B32154, 1 PIECE P/N D350748241 B32162
1 PIECE P/N D350748141 B32156, 1 PIECE P/N D350748241 B32158

100% HARDNESS TESTED

10 PCS.

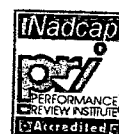
42/43 HRC



I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Chauva Robinson
Authorized Q.C. Inspector



**VACUUM BRAZING - HEAT TREATING - SPECIAL PROCESSING - FURNACE EQUIPMENT
TURBINE COMPONENT OVERHAUL - PLASMA AND OTHER COATINGS**

**HEAT
TREATING**



